



# The HPNS Backfill Acceptance Process



Hunters Point Naval Shipyard BCT Meeting – 7/26/2012



## Presentation Overview



- Relevant guidance documents
- Identifying site-specific import fill criteria
- Sample collection
- Data analysis
- Preparation of Borrow Source Assessment
- Post-action documentation



## Relevant Guidance Documents



- DTSC's *Information Advisory for Clean Imported Fill Material*
  - Advises on number of samples to collect based on import volume
  - Advises on analytical tests to be performed based on the nature of the borrow source
- Hunters Point Naval Shipyard (Basewide) *Backfill Review and Acceptance Procedure (HPO-Tt-0270)*
  - Describes procedures for characterizing backfill sources and preparing characterization data for Navy ROICC, RPM, and RASO review
- Site-specific decision documents (e.g., *ROD, RD*)
  - Include site-specific remediation goals and ambient levels to be used as import fill criteria
  - Include geotechnical requirements and additional chemical testing requirements (e.g. radiological testing requirements)



# DTSC Analytical Testing Guidance



## Potential Contaminants Based on the Fill Source Area

| Fill Source:                           | Target Compounds   |
|--|--|
| Land near to an existing freeway       | Lead (EPA methods 6010B or 7471A), PAHs (EPA method 8310)  |
| Land near a mining area or rock quarry | Heavy Metals (EPA methods 6010B and 7471A), asbestos (polarized light microscopy), pH  |
| Agricultural land                      | Pesticides (Organochlorine Pesticides: EPA method 8081A or 8080A; Organophosphorus Pesticides: EPA method 8141A; Chlorinated Herbicides: EPA method 8151A), heavy metals (EPA methods 6010B and 7471A)   |
| Residential/acceptable commercial land | VOCs (EPA method 8021 or 8260B, as appropriate and combined with collection by EPA Method 5035), semi-VOCs (EPA method 8270C), TPH (modified EPA method 8015), PCBs (EPA method 8082 or 8080A), heavy metals including lead (EPA methods 6010B and 7471A), asbestos (OSHA Method ID-191) |

**Information Advisory**  
**Clean Imported Fill Material**



*\*The recommended analyses should be performed in accordance with USEPA SW-846 methods (1996).  
Other possible analyses include Hexavalent Chromium: EPA method 7199*





# DTSC Sample Frequency Guidance



## Recommended Fill Material Sampling Schedule

| Area of Individual Borrow Area  | Sampling Requirements   |
|---------------------------------|---|
| 2 acres or less                 | Minimum of 4 samples  |
| 2 to 4 acres                    | Minimum of 1 sample every 1/2 acre  |
| 4 to 10 acres                   | Minimum of 8 samples  |
| Greater than 10 acres           | Minimum of 8 locations with 4 subsamples per location                                   |
| Volume of Borrow Area Stockpile | Samples per Volume  |
| Up to 1,000 cubic yards         | 1 sample per 250 cubic yards  |
| 1,000 to 5,000 cubic yards      | 4 samples for first 1000 cubic yards + 1 sample per each additional 500 cubic yards     |
| Greater than 5,000 cubic yards  | 12 samples for first 5,000 cubic yards + 1 sample per each additional 1,000 cubic yards |

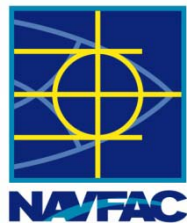




## Identifying Site-Specific Import Fill Criteria



- Hunters Point Naval Shipyard (Basewide) *Backfill Review and Acceptance Procedure (HPO-Tt-0270)* provides a preliminary set of import fill criteria
- Ambient levels of metals (HPALs) are incorporated into the preliminary set of import fill criteria
- Site-specific documents (e.g.: ROD, RD, etc.) will provide additional criteria in the form of remediation goals or other risk-based goals that are incorporated to customize the import fill criteria
- If the DTSC guidance specifies analytical testing for chemicals that have not been assigned basewide or site-specific criteria, regulatory criteria are used (e.g., EPA Regional Screening Levels)



# Sample Collection



- Chemical Samples:
  - Each source must be sampled and evaluated independently
  - Collect appropriate number of samples based on DTSC guidance
  - Collect volume of each sample per the laboratory's recommendations
  - Send to Navy-approved laboratory for testing
  - Analyses performed in accordance with DTSC guidance and HPNS or parcel-specific requirements (e.g., radiological testing)
  
- Geotechnical Samples:
  - Each source must be sampled and evaluated independently
  - Collect representative samples in accordance with project specifications
  - Send to Navy-approved geotechnical lab for analysis
  - Analyses performed in accordance with project specifications



# Data Analysis



- Chemical and Geotechnical Data Analysis:
  - Chemical data review performed by qualified engineer, geologist, or chemist
  - Geotechnical Data review performed by qualified engineer
  - All data must meet import fill criteria and specifications developed for the project
  - Straight comparison between data and criteria is performed
  - If a set of samples fails multiple tests, source must be rejected
  - If a set of samples includes a single exceedance of a screening criterion or specification, the project chemist may recommend further data review or investigation to justify source acceptance





# Preparation Borrow Source Assessment



- Documentation is compiled and the Borrow Source Assessment Worksheet signed off by:
  - CQC Manager
  - Project Manager
- Completed package is sent to the Remedial Project Manager (and RASO, if necessary) for Navy concurrence signature(s)
- Fully Executed Borrow Source Assessment is submitted to the ROICC as a submittal
- Soil Import can commence following approval from the ROICC



# Post-Action Documentation



- Borrow Source Assessments for each imported material are included in the post-completion document (e.g., RACR)



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